

CLAIMS:

1. A safety device against crane overturning which operates in a crawler crane comprising at least four outriggers in a frame, the safety device being characterized by comprising a load detector that detects a ground reaction to each of the outriggers, and an alarm output section which calculates sums of detected values for ground reactions to every two adjacent outriggers to find a minimum value of the sums, the alarm output section then comparing the minimum value obtained with a preset preliminary reference value and a preset limit reference value, and outputting a preliminary alarm signal when the minimum value is smaller than the preliminary reference value or outputting a limit alarm signal when the minimum value is smaller than the limit reference value.
2. The safety device against crane overturning according to Claim 1, characterized in that the load detector is provided with a coned disk spring which serves as an elastic member supporting a load.
3. The safety device against crane overturning according to Claim 1 or 2, characterized in that the load detector is provided at a base end of an outrigger cylinder.
4. The safety device against crane overturning according to Claim 1 or 2, characterized in that the load detector is provided at a base end of a base end arm.
5. The safety device against crane overturning according to Claim 1, 2, 3, or 4, characterized by further comprising setting switching means for enabling a preliminary reference value and a limit reference value to be switched and set in accordance with an overhang distance of each outrigger.

6. The safety device against crane overturning according to Claim 1, 2, 3, 4, or 5, characterized by further comprising operation switching means for switching the safety device between an inoperative mode and an operative mode depending on whether the crawler crane is in a traveling mode or in a crane mode.

7. The safety device against crane overturning according to Claim 1, 2, 3, 4, 5, or 6, characterized by further comprising a damage preventing device including a boom length detector that detects the length of a boom, a boom angle detector that detects the angle of the boom, a load detector that detects a lifting load, and a calculation control section which determines a limit load used to prevent damage and corresponding to a working radius, on the basis of values detected by the boom length detector and boom angle detector, the calculation control section then comparing the limit load obtained with a value detected by the load detector, and outputting a damage prevention signal when the value detected by the load detector reaches the value for the limit load.